



## **A CONSTRUCTION OF WORM COMPOST TURNED INTO AN ENTREPRENEURSHIP EXPERIENCE**

*Marcia Sacay; Ana Paula Lopes; Marcília Kawata;  
Rosália Motta; Sonia Reigado & Thais Sarra.*



(all the steps are documented at the QRCode)

This work came up in a moment when the National Plan for Education has been in discussion. It brings to surface the need of discussing what else children could develop at school apart from their standard curriculum. As a Natural Science Coordinator I've talked to the teachers who believe in innovative propositions about certain scientific topics. Together we found an interesting theme which worked well the year before and for 2017 it could come along with a second attractive proposal.

The planning class for the 4th grade had already covered the theoretical and practical study of solid waste of organic materials. The new step would introduce concepts of entrepreneurship and take action on reducing the solid waste from the school's cafeteria. By keeping the activities at the LabXplorer the students tested many conditions to figure out in which treatment the decomposition process would be more efficient and happen faster. Depending on the results it could be valuable to design a prototype of a compost box in a bigger scale where the cafeteria's waste could be treated.

The comparisons the students observed upon the experiment included humid to dry soil ; covered to uncovered waste by soil; cutting the material into small parts to keeping them large; presence to absence of microorganisms in the compost. After discussing and comparing the results of the treatments they built a worm compost box at the classroom based on the results.

Some conditions had to be considered and tested in the course of the production of humus and manure, because the worms died and we needed to analyze, test, and change the way we were trying to produce them. We analyzed the type of food that had been placed, the ventilation conditions, the temperature of the environment, and so forth. After tests, changes and conclusions, we can see the production happening. All the student's group developed for the Scratch Day Event games related to solid waste. Each class has developed a work to arouse the interest in the subject from the other groups: "The organic garbage can be transformed"; "Is garbage trash?"; "Questions and answers games about the subject".

All the steps included the concepts and the work experienced at the laboratory. They had to get back to them every time. These works brought a new perception for the teachers who realized how important the return to the subject matter was.

As told before, the major step began when they started asking what they could do with the products of the compost box at the classroom. The questions were perfect to continue our plan to introduce the entrepreneurship for them.

They were invited to create a startup, with the following departments: marketing, financial and innovative product. It was explained what each department would be responsible for and the students themselves identified their greatest abilities and allocated themselves to that department that could most collaborate

These departments had the goal to build a prototype of the products, which were slurry and húmus. The students got involved, very creative and engaged in thinking about the products' names and slogans too. There were five classrooms, which represented five different companies. They were not concerned about the competition between classes itself, but rather feeling responsible for organizing how they could find a differential for their own products. After that, each department of their businesses had been in touch with the school's financial and marketing professionals to talk to and get feedback to learn about better ways to present the results. On the day of the presentation to the judging panel that would analyze the work developed, the students were prepared to "face them" because they had already participated in all stages of the work and all had "active voice" in the meetings to share and align all decisions taken by the company's departments.

The students had no idea what questions and suggestions would come up from the judging panel participants, but as they were familiar with what their company's goals were and they had already trained how decisions should be made, they did not have a hard time to quickly manage to respond and explore with great property the issues addressed to them.